



Office of Special Education Mission Statement

The Office of Special Education, located in the South Dakota Department of Education and Cultural Affairs, advocates for the availability of the full range of personnel, programming, and placement options, including early intervention and transition services, required to assure that all individuals with disabilities are able to achieve maximum independence upon exiting from school.

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To download the functional standards, visit the Office of Special Education website at www.state.sd.us/state/executive/deca/special/special.htm. For further information or questions concerning the functional standards, contact the Office of Special Education at 605-773-3678.

To download the general education content standards, visit the Office of Technical Assistance website at www.state.sd.us/state/executive/decata/Content.htm. For further information or questions concerning the general education content standards, contact the Office of Technical Assistance at 605-773-6400.

TABLE OF CONTENTS

South Dakota Functional Standards

	Page
I. Overview	ii
II. Language Arts	1
Goal 1 – Reading	2
Goal 2 – Writing	8
Goal 3 – Listening and Viewing	12
Goal 4 – Speaking	15
III. Mathematics	19
Goal 1 – Algebra	20
Goal 2 – Geometry	24
Goal 3 – Measurement	27
Goal 4 – Number Sense	32
Goal 5 – Patterns, Relations, and Functions	38
Goal 6 – Statistics and Probability	41
IV. Science	45
Goal 1 – Nature of Science	46
Goal 2 – Physical Science	49
Goal 3 – Life Science	54
Goal 4 – Earth/Space Science	58
Goal 5 – Science, Technology, Environment and Society	60
V. Social Studies	63
Goal 1 – History	64
Goal 2 – Geography	68
Goal 3 – Civics	70
Goal 4 – Economics	74
VI. Glossary	77
VII. Bibliography	82

South Dakota Functional Standards Document Overview

In the May 2000 issue of PHI DELTA KAPPAN, the article “High Standards for Whom?” states: “There is significant agreement on the standards for standards. Proponents agree that standards should be grounded in core academic disciplines and should cover what students should know (content) and be able to do (performance)... Finally, standards should be crystal clear to everyone: students, parents and teachers... All children can live up to much higher expectations.”

Both state and federal law require educational content standards be developed for all children. In 1997, the South Dakota State Legislature passed a bill directing that content standards be developed in language arts, mathematics, social studies, and science across all grade levels. These standards are now being implemented statewide.

The Individuals with Disabilities Education Act of 1997 also requires that states establish goals for the performance of children with disabilities. These standards must be consistent with the goals and standards for all children (IDEA 300.137).

What are the Functional Standards?

Many students with disabilities are able to work toward the goals in the core content standards. However, the core standards as developed do not appropriately address the educational needs of all students with disabilities. Therefore,

functional standards have been developed to meet the needs of these students.

The functional standards extend the developmental spectrum of the core content standards. This allows all students the opportunity to progress academically toward independent living.

The functional standards:

- ❖ are a progression of skills necessary for independent functioning (birth through age 21);
- ❖ are based on the state content standards;
- ❖ are a user-friendly guide in assisting with IEP development;
- ❖ parallel the state content standards; and,
- ❖ are academically based— language arts, mathematics, science and social studies.

Who will use the Functional Standards?

The following are guidelines to assist the IEP team in determining which students will use the functional standards:

- ❖ The student's cognitive ability and adaptive skill levels prevent completing the standard academic curricula, even with modifications and accommodations.

- ❖ The student requires extensive direct instruction in multiple settings to apply and transfer skills.
- ❖ The student is involved in a functional, basic-skills education program.
- ❖ The student's inability to complete the standard academic curricula is not the result of extended absences; visual, auditory or physical disabilities.

The following is a guideline to assist the IEP team in determining which students will use the functional standards in conjunction with the core content standards:

- ❖ The student's achievement level in one or more core areas does not allow him/her to participate in the core curriculum.

How does the IEP team use the Functional Standards?

After the IEP team determines that functional standards would be appropriate for a student, the team would:

- ❖ consider the additional use of the core content standards in conjunction with the functional standards
- ❖ determine the impact on curriculum and instruction
- ❖ use standards as a basis for the development of the individualized education plan.

Note: Since many IEP goals are integrated into all areas of the curriculum, the IEP goals may or may not be content specific.

Functional Language Arts Goals at a Glance

Goal 1 – READING

Students will read at increasing levels of complexity for a variety of purposes.

Goal 2 – WRITING

Students will write effectively for different audiences and specific purposes.

Goal 3 - LISTENING AND VIEWING

Students will use critical listening and viewing skills in various situations and for a variety of purposes.

Goal 4 – SPEAKING

Students will speak effectively in a variety of formal and informal situations.

Goal 1 - READING

Students will read at increasing levels of complexity for a variety of purposes.

Indicator 1: Students will apply various reading cues/strategies to interpret and comprehend text, e.g., context, semantic, syntactic, and graphophonic cues.

Benchmarks:

- a. * Recognize that different cues can be used to make predictions about and clarify text.
- b. * Determine when it is appropriate to use a specific cue/strategy.
- c. * Draw upon prior knowledge and experience to understand unfamiliar texts.

Functional Standards

- ☐ 1. Identifies (point to, show me, which is, etc) objects, actions, persons, properties, and places
- ☐ 2. Labels (tell me what this is) objects, actions, persons, properties, and places.
- ☐ 3. Matches object/picture to sound and vice versa.
- ☐ 4. Matches written word with picture of word.
- ☐ 5. Attends to being read to.
- ☐ 6. Shows that words and books convey meaning.
- ☐ 7. Retells story by filling in omissions, from memory, and using picture cues.

- ❑ 8. Engages in language play through using nonsense words, rhymes, and affixes.
- ❑ 9. Reads and comprehends meaningful words such as name and functional vocabulary.
- ❑ 10. Shows understanding that words and sounds can be represented in print.
- ❑ 11. Tells a story, not necessarily the one in print.
- ❑ 12. Recites the alphabet in order independent of a model.
- ❑ 13. Identifies (point to, show me, which is, etc) the letters of the alphabet, both upper and lower case.
- ❑ 14. Recites alphabet after a model (ABC song).
- ❑ 15. Demonstrates understand of direction words (e.g. on, under, in, between, etc).
- ❑ 16.* Names all upper and lower case letters and identify the representative sounds.
- ❑ 17.* Distinguishes long and short vowel sounds.
- ❑ 18.* Distinguishes the initial and final sounds in single-syllable words (e.g. pit/pat; bit/bat).
- ❑ 19.* Uses pictures, illustrations, and personal knowledge to make and confirm predictions about stories.
- ❑ 20.* Connects information found in text to personal experience.
- ❑ 21.* Understands the relationship between spoken and written work.
- ❑ 22.* Uses knowledge of basic capitalization and punctuation when reading.
- ❑ 23.* Blends beginning, middle, and ending sounds to form words while reading.
- ❑ 24.* Reads to confirm initial predictions about text.
- ❑ 25.* Use knowledge of consonants, consonant blends, and common vowel patterns to decode unfamiliar words.
- ❑ 26.* Recognizes common contractions, compound words, and abbreviations (e.g. can't, baseball, Jan).
- ❑ 27.* Interprets information in text to confirm or reject initial predictions.

- ❑ 28.* Uses context clues and prior knowledge to understand unfamiliar texts (e.g. pictures, diagrams).
- ❑ 29.* Uses knowledge of sentence structure and punctuation when reading.
- ❑ 30.* Uses decoding and word recognition skills (e.g. suffixes, prefixes, vowel patterns, syllable breaks, word families, sight words).
- ❑ 31.* Demonstrates literal, interpretive, and/or critical comprehension by answering various how, why, and what-if questions.
- ❑ 32. Identifies the written names and/or relationship names of family members.
- ❑ 33. Identifies the written names of important objects found in and around his or her school and home.
- ❑ 34. Reads and follows simple written instructions.
- ❑ 35. Identifies key words found on employment applications and other simple forms.

Indicator 2: Students will evaluate patterns of organizations, literary elements, and literary devices within various texts.

Benchmarks:

- a. * Identify various organizational patterns authors use to create reader interest (e.g. limericks).
- b. * Explore literary elements and devices are used in various texts (e.g. character, setting).
- c. * Explore how authors use both literary elements and devices in stories.

Functional Standards

- ❑ 1. Demonstrates ability to sequence stories through picture cards, completion of stories, and retelling of stories.
- ❑ 2. Reads stories with repetitive patterns (Brown Bear, Brown Bear).
- ❑ 3. * Identifies and describes characters, settings, and key events.
- ❑ 4. * Identifies patterns of rhyming words (e.g. poems, songs).
- ❑ 5. * Identifies the problem or central idea in stories.
- ❑ 6. * Identifies patterns of rhyming words and repeated phrases in various texts.
- ❑ 7. * Describes cause and effect relationships in various text (e.g. why, what if, how, when).

Indicator 3: Students will interpret and respond to a diversity of works representative of a variety of cultures and time periods.

Benchmarks:

- a. * Identify personal favorites in reading materials.

Functional Standards

- ❑ 1. Independently looks at picture books.
- ❑ 2. Attends and participates in readings of nursery rhymes, nonsense rhymes, fingerplays and poetry.

- ❑ 3. Enjoys being read to and looks at books independently.
- ❑ 4. Explores a variety of worthy literary and narrative works (e.g. Caldecott books, picture books).
- ❑ 5. Selects literature appropriate for reading level, purpose, and interest.
- ❑ 6. Defines the attributes of personally appealing reading materials.

Indicator 4: Students will access, synthesize, and evaluate information from a variety of sources.

Benchmarks:

- a. * Identify different information sources to use for various purposes, e.g., Internet, CD- ROM, print materials.
- b. * Identify the appropriate materials/resources needed to explore specific topics.
- c. * Gather information from different sources to make reasonable decisions.

Functional Standards

- ❑ 1. Matches survival signs.
- ❑ 2. Demonstrates understanding of survival signs/words.
- ❑ 3. Identifies survival signs in the environment.
- ❑ 4. Matches warning, informational and safety signs with picture clues.
- ❑ 5. Reads and describes meaning for safety, informational and warning signs.
- ❑ 6. Identifies warning, informational and safety signs in the environment.

- ☐ 7. * Identifies everyday print materials that provide information (e.g. labels, newspapers).
- ☐ 8. Discriminates between fantasy and reality in stories.
- ☐ 9. Identifies the main idea in simple print materials.
- ☐ 10. Identifies appropriate sources to answer specific questions (e.g. weather forecast, calendars).
- ☐ 11.* Restates the main idea of simple expository information.
- ☐ 12.* Uses appropriate sources to locate specific types of information (e.g. calendar, newspaper, encyclopedia, dictionary, atlas).
- ☐ 13.* Identifies resources which provide factual information.
- ☐ 14.* Comprehends main idea and supporting details in simple expository information.
- ☐ 15.* Locates and paraphrases information within text to answer questions.
- ☐ 16.* Understands the function of organizational features and use them to locate information (e.g. table of contents, index, glossary).
- ☐ 17.* Uses text organizers such as type headings and graphics to predict and categorize information in print materials.
- ☐ 18. Uses written resources to gain information.
- ☐ 19. Seeks appropriate adult help when experiencing difficulties with written materials.

Goal 2 - WRITING

Students will write effectively for different audiences and specific purposes.

Indicator 1: Students will use appropriate mechanics, usage, and conventions of language.

Benchmarks:

- a. * Apply simple conventions of language in written work.
- b. * Use expanding vocabulary and appropriate spelling in written work.
- c. * Revise and edit written work using basic conventions of language.

Functional Standards

- ☐ 1. Marks with a crayon or pencil on paper after demonstration.
- ☐ 2. Imitates written forms of various types (e.g. vertical line, horizontal line, cross, diagonal, square, circle, etc.).
- ☐ 3. Traces lines to form various shapes and name.
- ☐ 4. Upon request, prints any three capital letters on a piece of paper without a model when told to, "Print three letters."
- ☐ 5. Copies various forms (e.g. vertical line, horizontal line, cross, diagonal, square, circle, etc.).
- ☐ 6. Independently draws forms upon request.

- ❑ 7. Demonstrates knowledge of left to right progression (e.g. in writing letters and numbers...etc).
- ❑ 8. Progressively (trace, dots, model, independently) demonstrates the ability to write letters, one's name and other words.
- ❑ 9. Copies words from a model.
- ❑ 10. Writes upper and lower case letters as appropriate.
- ❑ 11. Recognizes that words are used in a specific order in sentences (e.g. s-v: Mary runs).
- ❑ 12. Uses punctuation at the end of sentences.
- ❑ 13. Begins sentences with capital letters.
- ❑ 15. Writes complete sentences for a specific purpose.
- ❑ 16. Uses descriptive words when writing about people, places, things, and events.
- ❑ 17. Uses correct spelling of frequently used words in final copies.

Indicator 2: Students will use appropriate style, organization, and form in technical, transactional, creative, and personal writing.
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Benchmarks:

- a. * Recognize various ways to organize writing based on the intended purpose and audience.
- b. * Recognize writing styles used for different audiences and purposes, e.g., notes to a friend, thank you letter.
- c. * Identify different formats found in various types of publications, e.g., newspapers, letters, books.

Functional Standards

- ❑ 1. Writes using left to right, top to bottom progression.
- ❑ 2. Writes his or her address.
- ❑ 3. Writes his or her age and birth date.
- ❑ 4. Writes shopping and other lists.
- ❑ 5. Writes notes and other simple correspondence.
- ❑ 6. Writes brief narratives describing personal experience.
- ❑ 7. Writes to accomplish different purposes (e.g. share, inform, invite).

Indicator 3: Students will use various strategies and techniques to improve writing quality.

Benchmarks:

- a. * Explore the characteristics of various literary works to model effective writing.
- b. * Use suggestions from others to improve writing.
- c. * Write on a routine basis to improve personal work.

Functional Standards

- ❑ 1. Shares writing with others for revision.
- ❑ 2. Uses letters and phonetically spelled words when writing.
- ❑ 3. Generates personal and formal letters, thank you notes, and invitations.
- ❑ 4. Uses technology to share writing with others.
- ❑ 5. Uses various types of technology for sharing, revising, and editing written work.

Indicator 4: Students will write to clarify and enhance understanding of information.

Benchmarks:

- a. * Write to determine what is known about specific topics.
- b. * Write to clarify the meaning of new information.
- c. * Uses various examples from various sources to support personal interpretations.

Functional Standards

- ☐ 1. Gathers information from pictures, books, and videos to enhance writing.
- ☐ 2. Creates illustrations which represent information (e.g. a personal trip).
- ☐ 3. Creates sentences or word representations to explain events.
- ☐ 4. Retells or restates what has been heard or seen.
- ☐ 5. Writes to organize information and ideas.
- ☐ 6. Uses writing to demonstrate understanding of various topics in science, social studies, and mathematics.
- ☐ 7. Uses books and other media to gather information to write about life situations.

Goal 3 - LISTENING AND VIEWING

Students will use critical listening and viewing skills in various situations and for a variety of purposes.

Indicator 1: Students will use various listening and viewing strategies in social, academic, and occupational situations.

Benchmarks:

- a. * Identify various barriers to effective listening and viewing (e.g., distractions).
- b. * Identify helpful listening techniques used in decision-making situations.
- c. * Identify non-verbal cues that are used when communicating.

Functional Standards

- ☐ 1. Reacts to sounds.
- ☐ 2. Reacts to name being called by turning head, making eye contact, ...etc.
- ☐ 3. Is attentive during conversation/instruction.
- ☐ 4. Looks at objects, pictures, people, and actions being named.
- ☐ 5. Follows increasingly complex multiple step directions.
- ☐ 6. Responds appropriately to nonverbal cues such as pointing, facial expressions.
- ☐ 7. Responds appropriately to practical non-verbal signals (e.g. flashing lights, street crossings).

- ❑ 8. Responds appropriately to oral directions and instructions given by work supervisors and asks for clarification and further explanation when needed.
- ❑ 9. Continues a behavior when praised, and stops an undesirable behavior when asked.
- ❑ 10. Follows instructions for leisure time activities.
- ❑ 11. Accepts oral invitations from others to participate in various leisure time activities.

Indicator 2: Students will interpret and evaluate ideas/information from various oral/visual sources.
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Benchmarks:

- a. * Identify the basic intent of various oral and visual messages (e.g. advertisements).
- b. * Identify the qualities that make oral and visual information accurate and valid.

Functional Standards

- ❑ 1. Responds appropriately to a variety of verbal directions/requests.
- ❑ 2. Follows increasingly complex directions.
- ❑ 3. Identifies common environmental sounds.
- ❑ 4. Listens to a simple story attentively and demonstrates enjoyment and awareness by actions or facial or verbal expressions.
- ❑ 5. Names person, place, objects described or visible.
- ❑ 6. Identifies relevant sources of information and uses the information for their personal benefit.

Indicator 3: Students will utilize various strategies retain/retrieve critical oral and visual information.

Benchmarks:

- a. * Identify types of information used in daily activity.
- b. * Use questions to gain understanding of oral/visual information.
- c. * Use organization skills to assist in recall of oral/visual information.

Functional Standards

- ☐ 1. Responds appropriately to questions posed by others.
- ☐ 2. * Uses visual organizers to remember everyday information (e.g. labels, helper charts).
- ☐ 3. * Asks appropriate questions.
- ☐ 4. * Restates what others say to demonstrate recall.
- ☐ 5. * Uses patterns to recall information (e.g. alphabet song).
- ☐ 6. * Uses visual organizers to remember pertinent information (e.g. calendars).
- ☐ 7. * Asks appropriate questions to clarify information.
- ☐ 8. * Restates information in a sequence similar to how it was presented (e.g. simple directions).
- ☐ 9. * Uses visual cues to remember pertinent information (e.g. calendar, daily class schedules).
- ☐ 10.* Asks different types of questions for different purposes (e.g. directions, clarification).
- ☐ 11.* Creates or uses rhymes/patterns to recall important information (e.g. i before e except after c).

Goal 4 - SPEAKING

Students will speak effectively in a variety of formal and informal situations.

Indicator 1: Students will use the appropriate structure and sequence to best express ideas and convey information.

Benchmarks:

- a. * Present information in a clear and logical form.
- b. * Use responses from peers to judge speaking success.

Functional Standards

- ☐ 1. * Retells an experience in a logical sequence.
- ☐ 2. * Uses words to describe/name numbers, colors, size, shape, location, people, places, things, and actions.
- ☐ 3. * Tells/retells stories in a logical order or sequence.
- ☐ 4. * Gives simple one and two step directions.

Indicator 2: Students will use appropriate language and style for a variety of social, occupational, formal, and informal situations.

Benchmarks:

- a. * Use accepted language in personal communication.

Functional Standards

- ☐ 1. Appropriately uses the non-verbal aspects of communication when with others, through imitation and initiation.
- ☐ 2. Names common objects.
- ☐ 3. Reciprocates greetings.
- ☐ 4. Answers simple "WH" questions.
- ☐ 5. Expresses ideas in complete statements.
- ☐ 6. Makes requests appropriately.
- ☐ 7. Uses description to communicate about past, present, and anticipated experiences.
- ☐ 8. States "I don't know" when student doesn't know something upon request.
- ☐ 9. Speaks clearly to be understood by most listeners.
- ☐ 10. Follows the social conventions of the group when speaking (e.g. taking turns, voice, appropriate language, etc).
- ☐ 11.* Recognizes and uses correct grammar when speaking.
- ☐ 12.* Uses complete sentences when speaking.
- ☐ 13. Interact appropriately in formal and informal speaking situations with peers and adults.
- ☐ 14. Asks for needed work materials and equipment when they are not readily available.

- ❑ 15. Informs the appropriate individual when he or she will be late or will be absent from work.
- ❑ 16. Transmits messages to co-workers and supervisors when asked to do so.
- ❑ 17. Shares his or her thoughts and feelings with co-workers.
- ❑ 18. Discusses work-related matters with supervisors.
- ❑ 19. Provides appropriate information, including work history and qualifications, to a prospective employer in a job interview.
- ❑ 20. Invites family members, friends, and neighbors to join him or her in various leisure-time activities, including games and sports, entertainment and sports events, shopping, and social events.
- ❑ 21. Engages in the communication involved in participating in various leisure-time events.
- ❑ 22. Communicates needs, thoughts, and feelings to pertinent members of the household.
- ❑ 23. Shares information of importance obtained from the media and other sources with other members of the household.
- ❑ 24. Makes telephone calls requested by household members or that deal with factors and issues pertinent to the household.

Indicator 3: Students will use various presentation strategies to enhance oral communication, e.g., non-verbal techniques, visual aids, physical setting/environments.

Benchmarks:

- a. * Identify various non-verbal speaking techniques.
- b. Use various resources to support oral communication.

Functional Standards

- ☐ 1. Includes non-verbal cues (pointing, gestures, physical prompts) when responding to others.
- ☐ 2. Uses alternate modes of communication (e.g. keyboard, sign, pictures, etc).
- ☐ 3. * Recognizes that body movements and facial expressions represent feelings.
- ☐ 4. * Uses pictures when telling a story.
- ☐ 5. * Uses facial expressions as a means of non-verbal communication.
- ☐ 6. * Uses pictures or drawings when telling or retelling stories.
- ☐ 7. * Uses body movements and facial expressions as a means of non-verbal communication.

Functional Mathematics Goals at a Glance

Goal 1 – ALGEBRA

Students will use the language of algebra to demonstrate, describe, represent, and analyze number expressions and relations that represent variable quantities.

Goal 2 – GEOMETRY

Students will use the language of geometry to discover, analyze, and communicate geometric concepts, properties, and relationships.

Goal 3 – MEASUREMENT

Students will apply systems of measurement and use appropriate measurement tools to describe and analyze the world around them.

Goal 4 - NUMBER SENSE

Students will develop and use number sense to investigate the characteristics of numbers in a variety of forms and modes of operation.

Goal 5 - PATTERNS, RELATIONS, and FUNCTIONS

Students will discover, analyze, extend, and create patterns, relations, or functions to model mathematical ideas in a variety of forms.

Goal 6 - STATISTICS and PROBABILITY

Students will apply statistical methods to analyze data and demonstrate probability for making decisions and predictions.

Goal 1 – ALGEBRA

Students will use the language of algebra to demonstrate, describe, represent, and analyze number expressions and relations that represent variable quantities.

Indicator 1: Analyze procedures to transform algebraic expressions.

Benchmarks:

- a. * Identify equalities and inequalities.
- b. Demonstrate elements of sets.
- c. * Write mathematical statements to show relationships.

Functional Standards

- ☐ 1. * Compares sets of objects to determine more, less or equal.
- ☐ 2. Matches identical simple pictures of objects.
- ☐ 3. Matches/sorts objects or pictures.
- ☐ 4. Demonstrates techniques used in adding and subtracting numbers.
- ☐ 5. Uses same/different to describe pictures of object groups.
- ☐ 6. Uses comparative words to describe objects or pictures.
- ☐ 7. * Recognizes and creates a variety of sets and patterns using symbols.
- ☐ 8. * Uses concepts of equal to, greater than, and less than to compare numbers and sets.

- ❑ 9. Given two sets of objects or numerals, identifies which is more, less or equal.
- ❑ 10.* Applies the addition properties of zero and one in a problem situation.
- ❑ 11. Uses zero and one in addition, subtraction, multiplication and division operations with/without calculators.
- ❑ 12. Solves simple problems involving multiplication and division.
- ❑ 13. Recognizes and uses the commutative and associative properties of multiplication (e.g. if $6 \times 7 = 7 \times 6 = 42$)

Indicator 2: Use a variety of algebraic concepts and methods to solve problems.

Benchmarks:

- a. Create and use algebraic expressions that represent problem situations.
- b. * Recognize various representations of a number sentence.
- c. * Use the number line to solve problems involving positive and negative quantities.

Functional Standards

- ❑ 1. * Identifies the meaning of +, -, and = signs.
- ❑ 2. * Uses +, -, and = symbols to write number sentences and solve problems.
- ❑ 3. Identifies key terms in word problems to determine the correct operation and solve the problem.

- ❑ 4. * Identifies problem situations that require addition/subtraction.
- ❑ 5. Identifies relevant and irrelevant information in the statements of problem situations.
- ❑ 6. * Identifies and solves problem situations that match or do not match a given number sentence.
- ❑ 7. * Solves addition and subtraction problems using number lines.
- ❑ 8. Joins two sets together and identifies the total number (sums to 10).
- ❑ 9. Removes objects from a set of objects and indicates number remaining.
- ❑ 10.* Uses concrete materials to model and solve equations (e.g. classifying, sorting and patterning).
- ❑ 11.* Uses tables to model and solve equations.
- ❑ 12. Demonstrates given problem situations in multiple ways.
- ❑ 13. Writes and solves number sentences that represent word problems in addition and subtraction.
- ❑ 14. * Uses information taken from a graph or equation to answer questions about a problem situation or create a “story”.
- ❑ 15. Represents given problem situations using a diagram, model and symbolic expression.

Indicator 3: Analyze and describe situations that involve one or more variables.

Benchmarks:

- a. * Identify the variables in open sentences.
- b. Demonstrate various representations of a given number.

Functional Standards

- ❑ 1. * Uses informal methods to solve everyday problems.
- ❑ 2. * Demonstrates and models possible addition and subtraction combinations for a given number.
- ❑ 3. * Given sets of objects, divides a set of objects into equal groups.
- ❑ 4. Solves addition/subtraction problems using data from a simple chart, picture-graph & number sentence.
- ❑ 5. Identifies needed information in a problem situation.
- ❑ 6. Solves a problem containing a single/multiple variable(s).
- ❑ 7. * Uses informal methods to solve everyday problems requiring more than one operation.

Goal 2 - GEOMETRY

Students will use the language of geometry to discover, analyze, and communicate geometric concepts, properties, and relationships.

Indicator 1: Apply deductive and inductive reasoning to analyze geometric properties to solve problems.

Benchmarks:

- a. * Identify characteristics of two- and three-dimensional shapes.
- b. * Use geometric properties to identify shapes.
- c. * Investigate relationships between various geometric shapes.
- d. * Classify objects using geometric properties.
- e. * Use geometric properties to solve problems.

Functional Standards

- ❑ 1. Points to, identifies and names the six basic shapes (e.g. circle, square, triangle, rectangle, ellipse, diamond).
- ❑ 2. * Traces/draws plane geometric figures (e.g. square, rectangle, circle, and triangle...).
- ❑ 3. Matches shapes (e.g. circle, triangle, and square, etc...).
- ❑ 4. Sorts blocks, pegs, cubes and spheres.
- ❑ 5. Sorts six basic shapes (e.g. square, triangle, circle, rectangle, ellipse, and diamond).

- ❑ 6. Draws a horizontal line, vertical line and plus sign independently with and without demonstration.
- ❑ 7. * Identifies and describes solid figures (e.g. cube, sphere, and cone...etc.).
- ❑ 8. * Identifies, describes and draws plane figures according to number of sides, corners and square corners (e.g. octagon, pentagon, hexagon, polygon, and trapezoid).
- ❑ 9. * Identifies and describes examples of plane and solid figures in the environment.
- ❑ 10.* Compares and sorts plane and solid figures (e.g. circle/sphere, square/cube, triangle/pyramid, rectangle/rectangular solid).
- ❑ 11.* Compares plane figures to determine if objects are similar.
- ❑ 12.* Identifies and draws representations of line segments and angles using rulers or straightedges.
- ❑ 13.* Investigates, describes and identifies the relationships between and among points, lines and line segments.
- ❑ 14.* Uses geometric properties and terms to describe, sort and classify geometric objects.

Indicator 2: Analyze geometric figures from a variety of perspectives.

Benchmarks :

- a. Demonstrate concepts of perspective using geometric shapes and figures.
- b. * Describe spatial arrangements or positions of shapes and figures.
- c. Demonstrate ways to arrange geometric shapes.

Functional Standards

- ❑ 1. Places geometric piece in form-board (e.g. shape puzzles).
- ❑ 2. * Identifies and describes geometric objects in the environment and describes their position (e.g. next to top, bottom, near, far, up, down, below, etc.).
- ❑ 3. Describes proximity of objects in space (e.g. near, far, up down, below, beside).
- ❑ 4. Identifies geometric figures regardless of position and orientation in space.
- ❑ 5. * Demonstrates various geometric patterns.
- ❑ 6. * Determines ways in which shapes can be divided into equal parts (e.g. halves, quarter, thirds... etc.).
- ❑ 7. Puts together two parts of a picture/picture shape to make a whole.
- ❑ 8. Indicates an understanding of more/less, big/bigger/biggest, little/littler/littlest, large/larger/largest.

Goal 3 - MEASUREMENT

Students will apply systems of measurement and use appropriate measurement tools to describe and analyze the world around them.

Indicator 1: Use various units of measure within a system of measurement.

Benchmarks:

- a. Demonstrate various types of measurement used.
- b. * Recognize specific standard measurement units.
- c. * Use non-standard units to demonstrate measurement in unique situations.
- d. * Identify the referents used in different measurement scales.
- e. * Investigate appropriateness of scales selected for measurement situations.
- f. * Investigate scales that can be used in unique measurement situations.

Functional Standards

- ☐ 1. Using a picture, identifies day and night.
- ☐ 2. Identifies morning, afternoon, and evening by matching routine daily activities with the time of day.
- ☐ 3. Uses a calendar to identify today, tomorrow and yesterday.

- ☐ 4. * Measures time to the nearest five minutes, quarter hour, half hour and hour.
- ☐ 5. Identifies/reads digital display as a means of telling time and identifies the difference of time (am, pm) on a clock.
- ☐ 6. Tells which is longer, a minute, hour, day, week, month, and year.
- ☐ 7. Identifies, names and sequences days of the week.
- ☐ 8. Communicates what day today is, what tomorrow will be and what yesterday was.
- ☐ 9. Identifies, names and sequences the months of the year on the calendar.
- ☐ 10. Identifies the present month, the month before and the month after.
- ☐ 11. Upon request, tells his/her age correctly.
- ☐ 12. Identifies month and season of common holidays, and locates on the calendar.
- ☐ 13. Indicates and locates today's date on a calendar.
- ☐ 14. Identifies the present year.
- ☐ 15. Demonstrates and compares units of time (e.g. yesterday, today, tomorrow, days, hours, minutes, weeks, months, years, seasons).
- ☐ 16. Writes dates in various forms (9-12-99, September 12, 1999)
- ☐ 17. * Identifies, sorts and names coins/bills and their value.
- ☐ 18. Demonstrates equivalent amounts of money.
- ☐ 19. * Using \$ sign and decimal point or cent sign, writes amount of money counted.
- ☐ 20. Uses a calculator to add money amounts.
- ☐ 21. Recognizes, reads and writes prices of items.
- ☐ 22. Estimates cost of an item to the next higher dollar amount (e.g. \$.89 > \$1.00, \$2.45 > \$3.00).
- ☐ 23. Determines amount of money needed to purchase an item.

- ❑ 24. * Demonstrates, measures and compares length, weight and volume of objects using nonstandard units (e.g. cubes, paper clips, arm length, etc.).
- ❑ 25. Demonstrates, measures and compares length, weight and volume of objects using standard metric and customary units (e.g. inch, foot, yard/centimeters, meters; ounces, pounds/grams; gallons/liters etc.)
- ❑ 26. * Compares and orders a group of objects by measurable attributes.
- ❑ 27. Writes and reads abbreviations of inch, foot and yard, and metric equivalents.
- ❑ 28. * Selects and uses an appropriate standard or nonstandard unit to measure various objects and substances.
- ❑ 29. * Demonstrates unit relationships within a system of measurement (e.g. four quarts = a gallon).
- ❑ 30. Compares temperatures of different objects (e.g. hot water, cold water, ice cubes).
- ❑ 31. Identifies, marks a given temperature, and reads a thermometer.
- ❑ 32. * Uses specific units of measure to demonstrate length, weight, volume and temperature.
- ❑ 33. * Counts and trades objects to demonstrate the concept of equivalence (e.g. how many nickels equal a quarter?).
- ❑ 34. * Predicts whether the measure will be greater or smaller when a different unit is used (e.g. 3 dimes > a quarter).

Indicator 2: Apply measurement concepts in practical applications.**Benchmarks:**

- a. Demonstrate and use various tools that provide accurate measurements.
- b. Apply and use measurement tools that assist physical senses in making measurements and estimations of measurements.
- c. Demonstrate and investigate the use of measurement in various situations.

Functional Standards

- ☐ 1. Points to the smaller/larger of two different sized objects (e.g. plane and three-dimensional).
- ☐ 2. Sorts/identifies objects by size and length (e.g. big, small; long, short).
- ☐ 3. Demonstrates concept of long/short, big/small.
- ☐ 4. Orders objects by length, size, etc...
- ☐ 5. Identifies and sorts pairs of objects that are the same/different sizes.
- ☐ 6. Demonstrates understanding of comparative words using pictures (e.g. some, all; lots, none; many, few; empty, full; more, less).
- ☐ 7. Uses comparative words to describe objects or pictures.
- ☐ 8. * Compares temperatures of different objects (e.g. hot water, cold water, ice cubes).
- ☐ 9. * Identifies various tools used to solve measurement problems.
- ☐ 10.* Reads scales of length, weight, and temperature for measurement.

- ❑ 11.* Observes and records temperatures taken at various times.
- ❑ 12.* Demonstrates the concept of area and perimeter using squares, counting, cubes, or base-ten blocks.
- ❑ 13.* Uses appropriate tools and units of measure to solve problems.
- ❑ 14.* Uses scales of length, weight, and volume within a measurement system.
- ❑ 15.* Records and compares various measurement situations (e.g. temperature to the nearest degree, precipitation to the nearest inch).
- ❑ 16.* Estimates and determines the area, perimeter, and volume of figures by covering them with squares, counting cubes, or base-ten blocks.
- ❑ 17.* Determines the appropriate tools and units of measure for problem solving.
- ❑ 18. Estimates and measures length to the nearest $\frac{1}{2}$ inch.
- ❑ 19.* Measures and compares objects using measurable attributes.
- ❑ 20.* Uses scales of length, temperature, volume, and weight for problem solving.
- ❑ 21.* Uses appropriate tools to measure length, weight, temperature, and volume.

Goal 4 - NUMBER SENSE

Students will develop and use number sense to investigate the characteristics of numbers in a variety of forms and modes of operation.

Indicator 1: Analyze the structural characteristics of the real number system and its various subsystems.

Benchmarks:

- a. Demonstrate the structure and applications of the rational number system.
- b. Use physical materials and real-life experiences to understand the rational number system.
- c. Demonstrate connections of the whole number system to the rational number system.
- d. * Model the connections of subsystems in the rational number system.

Functional Standards

- ☐ 1. * Counts and groups numbers, objects, and simple events.
- ☐ 2. Touches/counts objects to ____ (5, 10, 50, 100).
- ☐ 3. Rote counts by ones to ____ (5, 10, 50, 100).
- ☐ 4. When presented with a number of objects, upon request, picks up 1-10/10-20 objects.
- ☐ 5. Counts on from a given number.

- ❑ 6. * Recognizes patterns from counting by number groups, using concrete objects and a calculator (e.g. 2's, 5's, 10's).
- ❑ 7. * Represents numbers through the use of physical models, word names, and symbols.
- ❑ 8. Matches, identifies and orders numerals 1-10, 10-20.
- ❑ 9. Identifies/points to /names numerals out of sequence.(1-10, 10 and greater)
- ❑ 10. Prints numerals 1-3, 1-9, and 1-20 with/without a model.
- ❑ 11. Writes numerals in sequence to 100 with/without a model.
- ❑ 12. Writes random numerals from dictation.
- ❑ 13.* Identifies ordinal positions of objects in a set (e.g. 1st, 2nd, 3rd) to 20th or higher.
- ❑ 14. Demonstrates difference between first, middle, and last.
- ❑ 15.* Counts by number groups (e.g. 2's, 5's, 10's to 100 or higher).
- ❑ 16.* Counts objects in a given set and writes the corresponding numeral.
- ❑ 17. Understands the concept of one.
- ❑ 18.* Associates verbal names, work names, and standard numerals with whole numbers less than 500.
- ❑ 19.* Demonstrates the concept of mixed numbers.
- ❑ 20.* Names, represents and writes simple fractions (e.g. $\frac{1}{2}$, $\frac{1}{3}$), and simple decimals (e.g. .50, .33)
- ❑ 21.* Demonstrates that a mixed number is a whole number plus a fraction (e.g. 1 $\frac{1}{2}$ cups equals one cup and $\frac{1}{2}$ cup).

Indicator 2: Apply number operations with real numbers and other number systems.**Benchmarks:**

- a. * Model the operations of addition, subtraction, multiplication, and division on rational numbers.
- b. * Construct meaning for whole numbers, common fractions, and decimals.
- c. * Apply the number operations of addition and subtraction in problem-solving situations.

Functional Standards

- ☐ 1. Adds two numbers together to make sums to 10.
- ☐ 2. Adds one digit numbers with sums to 18 written in vertical or horizontal form.
- ☐ 3. Uses +, -, and = symbols to write number sentences and solve problems.
- ☐ 4. Subtracts numbers from 10 in both vertical and horizontal form to determine number left.
- ☐ 5. * Demonstrates and describes that a whole is composed of fractional parts using things encountered in daily experiences.
- ☐ 6. Estimates and finds the sum or difference of two whole numbers written in horizontal or vertical form.
- ☐ 7. Uses models to demonstrate addition and subtraction of fractions.
- ☐ 8. Joins two sets together and identifies the total number (sums to 10).
- ☐ 9. Removes objects from a set of objects and indicates number remaining.

- ❑ 10. Subtracts numbers from 10 in both vertical and horizontal form using number lines.
- ❑ 11. Solves two-and three-digit addition and subtraction problems with and without regrouping.
- ❑ 12. Uses calculator to add and subtract numbers.
- ❑ 13. Multiplies/divides 1, 2 and 3 digit numbers using a calculator.
- ❑ 14. Adds and subtracts multi-digit whole numbers using various computational methods and tools.
- ❑ 15. Learns and uses basic multiplication/division through the 9's using concrete models and other tools.

Indicator 3: Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.
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Benchmarks:

- a. Demonstrate properties of the whole number system.
- b. Demonstrate and apply various problem-solving rules.
- c. * Estimate and/or predict results of various calculations.

Functional Standards

- ❑ 1. * Represents problem situations using concrete objects.
- ❑ 2. * Estimates answers to problems using comparative words (e.g. greater, fewer, more, less).
- ❑ 3. * Explains how to solve story and picture problems.
- ❑ 4. * Demonstrates problem situations using concrete materials, drawings, or words.

- ❑ 5. * Explains or justifies estimates to everyday quantity problems (e.g. how many jelly beans may be in the jar).
- ❑ 6. * Explains how one arrives at solutions to problems using concrete examples.
- ❑ 7. Solves one step problems.
- ❑ 8. * Solves story problems involving multi-step operations.

Indicator 4: Analyze the concept of value, magnitude, and relative magnitude of real numbers.

Benchmarks:

- a. Demonstrate place value concepts using grouping.
- b. Describe the impact of adding and subtracting/multiplying and dividing on the magnitude of numbers.
- c. * Model the concept of magnitude using concrete materials.
- d. * Model order and value for commonly used fractions, decimals, and whole numbers.

Functional Standards

- ❑ 1. * Demonstrates place value by grouping objects by 10's and 1's.
- ❑ 2. * Orders a set of numbers based on value.
- ❑ 3. Names and writes numerals that come before and after a given numeral.

- ❑ 4. * Uses relationship vocabulary to describe value and magnitude of objects (e.g. bigger, smaller, more, less, equal).
- ❑ 5. * Orders and compares whole numbers up to 100.
- ❑ 6. * Compares and orders common fractions using concrete materials (e.g. one-fourth to one-half of a cookie).
- ❑ 7. Identifies place value in two digit numbers.
- ❑ 8. Using pictures or objects grouped in 10's and 1's writes numbers using correct place values.
- ❑ 9. Writes numerals with correct place value.
- ❑ 10.* Uses words, models, and expanded notation to represent numbers with two or more digits.
- ❑ 11.* Compares and orders fractions and decimals on a number line.
- ❑ 12.* Recognizes relationships between common decimals and fractions (e.g. $\frac{1}{2} = 0.5$).
- ❑ 13.* Understands relative size of whole numbers.
- ❑ 14.* Orders and compares whole numbers using appropriate words and symbols (e.g. <, greater than).
- ❑ 15. Recognizes that fractions and decimals are parts of a whole.
- ❑ 16.* Uses a number line to compare numerical value of fractions or mixed numbers.
- ❑ 17.* Describes the relative size of large numbers using various models and/or everyday representations.
- ❑ 18.* Uses and interprets negative numbers in simple contexts (e.g. temperature gauge).

Goal 5 - PATTERNS, RELATIONS, and FUNCTIONS:

Students will discover, analyze, extend, and create patterns, relations, or functions to model mathematical ideas in a variety of forms.

Indicator 1: Analyze and describe the properties and behaviors of relations, functions, and their inverses.

Benchmarks:

- a. Demonstrate the relationship between two variables.
- b. Recognize the constants of a relationship.
- c. Demonstrate the properties of various relations.

Functional Standards

- ❑ 1. * Sorts and classifies objects according to similar attributes (e.g. size, shape, and color).
- ❑ 2. * Identifies common attributes found in different groupings.
- ❑ 3. * Sorts and classifies objects according to one or more attributes (e.g. color, size, shape, or thickness).
- ❑ 4. * Identifies like and unlike attributes of objects in a given group.
- ❑ 5. * Determines common attributes in a given group and identifies those objects that do not belong.
- ❑ 6. * Uses data to explain relationships (e.g. plants grow taller with more hours of sunlight).

- ❑ 7. * Explains relationships present in a given set of data.
- ❑ 8. * Investigates the concept of a variable.
- ❑ 9. Demonstrates the concept of a variable.

Indicator 2: Apply relations and functions to complex problem solving situations.

Benchmarks:

- a. Observe, describe and reproduce patterns found in everyday events and experiences.
- b. Use tables and graphs to demonstrate and find solutions to problems.

Functional Standards

- ❑ 1. * Demonstrates effects of change of a pattern.
- ❑ 2. * Identifies and extends repeating patterns found in common objects, sounds, and movements.
- ❑ 3. Finds matching patterns.
- ❑ 4. Using objects, copies a pattern from a model.
- ❑ 5. * Creates repeating patterns.
- ❑ 6. Creates a repeating pattern with/without a model.
- ❑ 7. Identifies patterns in the environment.
- ❑ 8. * Demonstrates the next element in repeating patterns (e.g. rhythm, color, shape, and number).
- ❑ 9. * Finds patterns or relations in data organized in tables or charts to determine what should come next.
- ❑ 10.* Finds patterns and relationships in sequences of numbers (e.g. doubles in learning addition; given three numbers, find the next number in the sequence).
- ❑ 11.* Describes and represents patterns that are growing and/or repeating.

- 12.* Uses information from a graph or equation to answer questions about a problem situation or to create a “story”.

Indicator 3: Analyze the applications of the concept of mathematical limit.

Benchmarks:

- a. Demonstrate characteristics of bounded relationships.
- b. * Use concrete models to represent continuous or discrete patterns or functions.

Functional Standards

- 1. * Identifies potential arrangements/combinations for sets of three objects.
- 2. * Explains ways to change an arrangement of objects.
- 3. * Explains ways to change an arrangement of objects.

Goal 6 - STATISTICS and PROBABILITY

Students will apply statistical methods to analyze data and demonstrate probability for making decisions and predictions.

Indicator 1: Use various statistical models to gather data, study problems, and draw conclusions.

Benchmarks:

- a. * Use data gathered from the environment to create tallies, tables, and graphs of information.
- b. * Compare and discuss relationships of categories for classified collections of objects.
- c. * Make convincing arguments to support simple conclusions drawn from collected data.

Functional Standards

- ❑ 1. * Demonstrates ways to sort and/or group given sets of objects or data.
- ❑ 2. * Collects and records information using objects, tally, pictures or other strategies.
- ❑ 3. * Describes and compares observable quantities of collected data (e.g. the flavor of ice cream that most people like).
- ❑ 4. * Gathers and records data from various sources or situations including surveys and simple experiments.
- ❑ 5. * Collects, records and organizes data into tally charts, picture graphs, and bar graphs.

- ❑ 6. Describes represented data in terms of most often, least often.
- ❑ 7. * Represents data sets in more than one way (e.g. charts, line graphs, bar graphs).
- ❑ 8. * Determines if data collected is relevant and/or appropriate.
- ❑ 9. * Asks questions about data given in tables and graphs.
- ❑ 10. Uses data about life situations to make predictions and justify reasoning.

Indicator 2: Apply the laws of probability to predict events/outcomes and solve problems.

Benchmarks:

- a. * Gather and compare sets of data based on chance events.
- b. * Explain consistency of results that occur in repeated experimental trials.
- c. * Predict outcomes, draw simple conclusions, and report results based on collected data.

Functional Standards

- ❑ 1. * Demonstrates the concept of probability through the use of chance events (e.g. coin toss, dice, spinners).
- ❑ 2. * Uses the concept of chance to demonstrate probability of actual events and game situations.
- ❑ 3. * Predicts possible outcomes of probability experiments (e.g. tossing a die or a coin).
- ❑ 4. * Uses concepts of chance and certainty to discuss the probability of actual events.

- ❑ 5. * Lists possible outcomes of probability experiments.
- ❑ 6. * Determines if common events are certain, likely, unlikely, or impossible.
- ❑ 7. * Demonstrates possible arrangements of a limited number of objects (e.g. how many ways can a blue, a red, and a green block be lined up?).
- ❑ 8. * Demonstrates what happens to results when data is pooled (e.g. each person contributes their results to a class data set).

Functional Science Goals at a Glance

Goal 1 - NATURE OF SCIENCE

Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.

Goal 2 - PHYSICAL SCIENCE

Students will use appropriate scientific models to describe and quantify the nature and interactions of matter and energy.

Goal 3 - LIFE SCIENCE

Students will describe structures and attributes of living things, processes of life, and interaction with each other and the environment.

Goal 4 - EARTH/SPACE SCIENCE

Students will analyze the composition, formative processes, and history of the universe, solar system and Earth.

Goal 5 - SCIENCE, TECHNOLOGY, ENVIRONMENT AND SOCIETY

Students will identify and evaluate the relationships and ethical implications of science, upon technology, environment, and society.

Goal 1 - NATURE OF SCIENCE

Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.

Indicator 1: Understand the nature, values, and application of scientific knowledge.

Benchmarks:

- a. Demonstrates sensory awareness of environment.
- b. Explores environment through senses.
- c. Explore and participates in group scientific activity.

Functional Standards

- ☐ 1. Demonstrates an observable behavioral change when stimulated (tactile, auditory, visual).
- ☐ 2. Inspects surroundings.
- ☐ 3. Uses hands and mouth for sensory exploration of objects.
- ☐ 4. Looks for an object no longer visible.
- ☐ 5. Identifies objects by sounds.
- ☐ 6. * Actively participates in science activities.
- ☐ 7. * Observes and asks questions about the world around them (e.g. Where does rain come from?).
- ☐ 8. * Shows an interest in and willingness to investigate unfamiliar objects and events.

- ❑ 9. * Asks questions and explores the world around them.
- ❑ 10.* Uses investigations in science to answer different questions.
- ❑ 11.* Uses investigations in science to serve different purposes (e.g. exploring the world).
- ❑ 12.* Understands that science involves asking and answering questions and comparing the results to what is already known.

Indicator 2: Demonstrate understanding and use a variety of processes for scientific investigations.

Benchmarks:

- a. Uses senses to make observations.
- b. Uses senses and simple problem solving to make predictions.
- c. Understands and participates in group scientific exploration.
- d. * Demonstrates safety when engaged in scientific activities.

Functional Standards

- ❑ 1. Explains what senses are for.
- ❑ 2. * Uses their senses and simple instruments to make observations (e.g. magnifying glasses, balance scales, thermometer).
- ❑ 3. * Uses non-standard units of measurement to compare objects.
- ❑ 4. * Enhances observations by using senses and simple instruments to identify differences in properties.

- ❑ 5. * Uses scientific thinking skills (e.g. observing, communicating, classifying, comparing, predicting).
- ❑ 6. * Measures length, volume, mass and temperature in appropriate units.
- ❑ 7. * Makes predictions based on observations rather than random guesses.
- ❑ 8. * Makes specific predictions and observations concerning a situation.
- ❑ 9. * Use proper safety procedures in all investigations (e.g. fire safety, machine safety, chemical safety...etc.).
- ❑ 10.* Applies basic science process skills (e.g. observing, classifying, measuring, communicating, predicting, and inferring).

Goal 2 - PHYSICAL SCIENCE

Students will use appropriate scientific models to describe and quantify the nature and interactions of matter and energy.

Indicator 1: Describe structures and properties of matter in various states and forms.

Benchmarks:

- a. * Identify observable properties of matter.
- b. * Recognize that matter exists smaller than the eye can see.

Functional Standards

- ☐ 1. * Uses sensory descriptors to describe objects (e.g. sweet, sour, rough, smooth).
- ☐ 2. * Explores objects in terms of physical attributes.
- ☐ 3. * Finds similarities and differences of various objects.
- ☐ 4. * Observes and describes how objects in the world vary greatly in their properties.
- ☐ 5. * Compares relative mass of objects (e.g. which object is heavier, lighter).
- ☐ 6. * Creates mixtures and separates them based on differences in properties. (e.g. separate rocks and sand using a screen).
- ☐ 7. * Investigates and describes basic properties of solids, liquids, and gases.
- ☐ 8. * Classifies objects by their physical properties.
- ☐ 9. * Classifies matter by its state.

- ❑ 10.* Describes physical properties of objects.
- ❑ 11. Explores how different materials can be made by physically combining substances (e.g. student made paste).
- ❑ 12. Differentiates between the states of matter when matter changes (e.g. from a solid to liquid).
- ❑ 13. Identifies changes that can occur in the physical properties of the ingredients in a solution (e.g. sugar dissolving in water).
- ❑ 14. Describes the effect of various external energies on the states of matter (e.g. temperature, mechanical, chemical).

Indicator 2: Describe physical and chemical changes in matter.

Benchmarks:

- a. * Explore ways that matter can change.
- b. * Explore the effects of physical changes on common materials.

Functional Standards

- ❑ 1. Observes changes in food from one state to another (e.g. raw to cooked, popcorn).
- ❑ 2. Puts foods that require refrigeration in refrigerator or freezer.
- ❑ 3. Classifies the three states of matter.
- ❑ 4. * Studies water in solid and liquid form.
- ❑ 5. * Observes physical changes in matter (e.g. melting, freezing, bending, tearing).

- ❑ 6. * Experiments with water to determine how common materials interact with it (e.g. floating, sinking, dissolving).
- ❑ 7. * Observes how some substances dissolve more easily in hot water rather than cold.
- ❑ 8. * Investigates and understands processes associated with changes in matter from one state to another (e.g. condensation, evaporation, melting, freezing, expanding, contracting).
- ❑ 9. * Explores how different materials can be made by physically combining substances (e.g. student made paste, simple cooking activities).

Indicator 3: Analyze fundamental forces, their forms, and their effects on motions.

Benchmarks:

- a. * Explore relationships between force and motion.
- b. * Explore the forces and motions of moving objects.

Functional Standards

- ❑ 1. * Explores magnetism, describes its effect on various materials, observes that magnetic force can pass through various materials and that some magnets have useful applications.
- ❑ 2. * Describes the motion of various objects found in their world (e.g. cars, swings, straight, circular and back and forth).

- ❑ 3. * Describes how pushes or pulls can change motion of an object.
- ❑ 4. * Describes motions of common objects in terms of speed and direction.
- ❑ 5. * Explores how the movement of objects influence other objects (e.g. collision of marbles).
- ❑ 6. * Predicts the effects of force on objects (e.g. water, wind).
- ❑ 7. * Describes how things can move or be made to move.
- ❑ 8. * Explores ways to make objects move faster or slower or in a different direction.
- ❑ 9. * Discusses and makes predictions about moving things (e.g. insects, birds, fans).
- ❑ 10.* Investigates simple machines (e.g. lever, pulley, wheel, axle, inclined plane, wedge, screw).
- ❑ 11.* Identifies types, examples, and functions of simple machines.
- ❑ 12.* Explains the cause and effect of motion.
- ❑ 13.* Investigates the way sources of energy do work.
- ❑ 14.* Describes how machines make work easier, trading force for distance.
- ❑ 15.* Observes simple and complex machines to determine how the machines make work easier.

Indicator 4: Analyze interactions of energy and matter.
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Benchmarks:

- a. * Explore different forms of energy.
- b. * Explore energy transfers.

Functional Standards

- ❑ 1. Learns how to control environmental energy (e.g. use of switches, plugs, control of fire).
- ❑ 2. Explores vibration and sound.
- ❑ 3. Determines which of two objects is hotter or colder.
- ❑ 4. * Explores heat sources and the effect on matter.
- ❑ 5. * Associates sounds with vibrating objects.
- ❑ 6. * Investigates sources of energy (e.g. moving water, food).
- ❑ 7. * Explores how the sun applies heat and light to Earth.
- ❑ 8. * Explores how heat can be produced in many ways.
- ❑ 9. * Explores how light can pass through some objects and not others.

Goal 3 - LIFE SCIENCE

Students will describe structures and attributes of living things, processes of life, and interaction with each other and the environment.

Indicator 1: Understand the fundamental structures, functions, and mechanisms found in living things.

Benchmarks:

- a. * Explore ways to classify living things.
- b. * Explore processes in living things.
- c. * Explore structures and functions in living things.
- d. * Identify relationships between structures and functions within an organism.
- e. * Identify ways that living things are organized and classified.

Functional Standards

- ☐ 1. * Sorts living from non-living things.
- ☐ 2. * Describes the basic needs of living organisms.
- ☐ 3. * Recognizes similarities and differences in diverse species.
- ☐ 4. * Compares size, shape and structure of living things (e.g. grasses to trees, birds to mammals).
- ☐ 5. * Describes changes that are part of common life cycles (e.g. seed to flower to fruit to seed).

- ❑ 6. * Describes life needs of green plants (e.g. minerals, air, water, light, and a place to grow).
- ❑ 7. * Classifies plants according to parts (e.g. seeds, roots, stems, fruit).
- ❑ 8. * Analyzes plants according to characteristics (e.g. edible/nonedible, flowering/nonflowering).
- ❑ 9. * Describes life needs of animals, including people (e.g. food, air, water, place to live).
- ❑ 10.* Classifies animals according to physical characteristics (e.g. body shape, appendages).
- ❑ 11.* Observes and cares for pets and/or plants.
- ❑ 12.* Describes similarities and differences of plants.
- ❑ 13.* Describes similarities and differences of animals.
- ❑ 15.* Compares plants and animals in their immediate surroundings with those in other habitats.
- ❑ 16.* Describes how plants go through a series of orderly changes in their life cycle (e.g. flowering plants undergo many changes from the formation of a flower to the development of the fruit).
- ❑ 17.* Classifies and analyzes living things by structure and function (e.g. bird's beak and what the bird eats).
- ❑ 18.* Identifies the basic structures and functions of plants and animals
- ❑ 19.* Understands basic structures and functions in common plants (e.g. leaves, stems, roots, flowers).
- ❑ 20.* Describes how component parts make up the human body system.

Indicator 2: Analyze various patterns and products of natural and induced biological change.**Benchmarks:**

- a. * Identify ways offspring are like their parents.
- b. * Explore ways organisms change.
- c. Explore and explain how plants and animals survive their environment.

Functional Standards

- ☐ 1. * Recognizes that offspring of plants and animals are similar, but not identical to their parents or one another (e.g. pets and/or plants).
- ☐ 2. * Explores ways in which organisms react to changing conditions (e.g. animals' coats change in the winter; people sweat in hot weather and shiver in cold weather).
- ☐ 3. * Describes physical similarities and differences between traits of parents and their offspring.
- ☐ 4. * Explores how organisms are dependent upon each other for survival.
- ☐ 5. * Describes how some animals (frogs and butterflies) go through distinct stages during their lives while others generally resemble their parents throughout most of their lives.
- ☐ 6. * Explains how behavioral and physical adaptations/characteristics allow animals to respond to life needs (e.g. finding shelter, defending themselves, hibernation, and camouflage).
- ☐ 7. * Describes similarities and differences of offspring within families.

Indicator 3: Analyze how organisms are linked to one another and the environment.

Benchmarks:

- a. * Explore ways energy is transferred in a food chain.
- b. * Explore how environmental factors affect living things within an ecosystem
- c. * Identify relationships and interactions of living things.

Functional Standards

- ☐ 1. * Describes the flow of energy in a simple food chain.
- ☐ 2. * Describes ways that plants and animals depend on each other.
- ☐ 3. * Describes factors that affect air and water quality.
- ☐ 4. * Explains the importance of conserving water or other resources at home and school.
- ☐ 5. * Describes ways humans impact air, water, and habitat quality.
- ☐ 6. * Describes how seasonal changes impact life processes of plants and animals.
- ☐ 7. * Explains what happens when factors are eliminated from plant growth (e.g. no water, sunshine).
- ☐ 8. * Describes how seasonal changes affect plants, animals, and their surrounding (e.g. migration, hibernation, camouflage, adaptation, dormancy).
- ☐ 9. * Describes cause and effect relationships in living systems.

Goal 4 - EARTH/SPACE SCIENCE

Students will analyze the composition, formative processes, and history of the universe, solar system and Earth.

Indicator 1: Analyze the various structures and processes of the Earth system.

Benchmarks:

- a. * Identify properties of Earth.
- b. * Identify changes that occur on Earth.

Functional Standards

- ☐ 1. * Explores how shadows are made.
- ☐ 2. * Describes major features of the Earth's surface (e.g. rivers, deserts, mountains, valleys, oceans).
- ☐ 3. * Compares rocks, soil, and sand.
- ☐ 4. * Describes simple Earth patterns in daily life (e.g. weather observations).
- ☐ 5. * Describes how night and day are caused by the rotation of the Earth.
- ☐ 6. * Explains that the sun is the source of heat and light that warms the land, air, and water.
- ☐ 7. * Describes the effects of weather on Earth (e.g. erosion, floods, tornadoes).
- ☐ 8. * Investigates and describes basic types and patterns of weather (e.g. high and low temperature, wind, precipitation, storms).

- ❑ 9. * Describes how weather and seasonal changes affect plants, animals and their surroundings.
- ❑ 10. Describes the importance of soil to plants and animals.
- ❑ 11. Identifies simple geological features (e.g. mountains, valleys).
- ❑ 12. Explores the patterns of nature (e.g. day/night, seasons, life cycle).

Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.

Benchmarks:

- a. * Identify Earth's place in the solar system.
- b. * Identify natural objects and events outside Earth.

Functional Standards

- ❑ 1. * Describes what causes day and night.
- ❑ 2. * Identifies observable objects in the day and night skies.
- ❑ 3. * Records position and apparent shape of moon over a period of time.
- ❑ 4. * Describes what can be observed in the sky by the unaided eye in the day and at night (e.g. sun, moon, stars).
- ❑ 5. * Observes and identifies the basic components of the solar system (e.g. sun, planets).

**Goal 5 - SCIENCE, TECHNOLOGY, ENVIRONMENT
AND SOCIETY****Students will identify and evaluate the relationships and ethical implications of science, upon technology, environment, and society.****Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.****Benchmarks:**

- a. * Explore how various tools benefit mankind.
- b. * Explore ways human activity affects the environment.

Functional Standards

- ❑ 1. * Recognizes and uses technology in school, home and community (e.g. switch communication, computer, pencil, refrigerator, Velcro, fire truck).
- ❑ 2. * Describes ways technology makes life easier for people.
- ❑ 3. * Cares for the environment around the school (e.g. litter, paper).
- ❑ 4. * Recognizes ways to reuse various materials.
- ❑ 5. * Describes how technology contributes to solving problems.
- ❑ 6. * Investigates how to recycle and reuse natural resources.

- ❑ 7. * Describes how technology contributes to solving problems.
- ❑ 8. * Explains how technology is applied to daily life.
- ❑ 9. * Models the ways to recycle, reuse, and reduce consumption of natural resources.
- ❑ 10. Explains how inventions have changed peoples lives (e.g. television, electric lights).

Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.

Benchmarks:

- a. Explore the impact of scientific discoveries on the lives of people.
- b. Explore ways to respond to various environmental hazards.

Functional Standards

Not appropriate for functional standards.

Functional Social Studies Standards at a Glance

Goal 1 - HISTORY

Students will understand the emergence and development of civilizations over time and place.

Goal 2 – GEOGRAPHY

Students will understand the interrelationships of people, places, and the environment.

Goal 3 - CIVICS

Students will understand the historical development and contemporary role of governmental power and authority.

Goal 4 - ECONOMICS

Students will understand the impact of economics on the development of societies and on current and emerging national and international situations.

Goal 1 - HISTORY

Students will understand the emergence and development of civilizations over time and place.

Indicator 1: Analyze the chronology of various historical eras to determine connections and cause/effect relationships.

Benchmarks:

- a. * Explore significant characteristics of past and present time periods.
- b. * Recognize there is chronological order and sequence in history.
- c. * Explore various cause and effect relationships.

Functional Standards

- ☐ 1. Recognizes/identifies one's own past events.
- ☐ 2. Recognizes/identifies one's own past events in relation to events in the family, community, nation, or world.
- ☐ 3. Recognizes/identifies examples of past events in American history.
- ☐ 4. Recognizes/identifies American and world leaders.
- ☐ 5. Recognizes similarities and differences between past and present events.
- ☐ 6. Recognizes/identifies the way of life in particular time periods in history.
- ☐ 7. Identifies why people lived the way they did during various eras of history.
- ☐ 8. Recognizes/identifies various aspects of different cultures both within and across time periods.

- ❑ 9. Identifies why an event or series of events occurred.

Indicator 2: Evaluate the significance of interactions among cultures and civilizations and the impact on cultural diffusion.

Benchmarks:

- a. * Recognize the impact of cultural diffusion on the local community.
- b. * Recognize how different cultures have influenced customs and traditions within the local community.
- c. * Recognize the importance of preserving and sharing culture.

Functional Standards

- ❑ 1. Recognizes/identifies people in the family & community who are the same and different.
- ❑ 2. Recognizes/identifies aspects of one's own culture.
- ❑ 3. Uses appropriate social rules in various school and community situations.
- ❑ 4. Recognizes/identifies people in the state/region who are the same and different.
- ❑ 5. Recognizes/identifies people in the country who are the same and different.
- ❑ 6. Recognizes/identifies people in the world who are the same and different.
- ❑ 7. Recognizes/identifies people in the community who are associated with major holidays/events (e.g. Veteran's Day, Martin Luther King Day).

- ❑ 8. Recognizes/demonstrates the differences in customs of various cultural groups around the world.
- ❑ 9. Recognizes/identifies the individuals important in the development of South Dakota history.
- ❑ 10. Participates in community activities that are associated with major holidays/events.
- ❑ 11. Recognizes/identifies why people in history have migrated to America throughout American history.

Indicator 3: Evaluate the influence of varying values and philosophies on the development of civilization and cultures.
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Benchmarks:

- a. * Compare and contrast the role of major religions within cultures.
- b. * Compare and contrast value and belief systems within major cultures.
- c. * Analyze the influence of differing philosophies and religions on the development of various cultures.

Functional Standards

- ❑ 1. Recognizes/identifies aspects of one's own characteristics, family, and culture.
- ❑ 2. Recognizes/identifies aspects of classmates' characteristics, family, and culture.
- ❑ 3. Recognizes/identifies aspects of other persons in the school characteristics, families and culture.

- ❑ 4. Recognizes/identifies aspects of other persons in the community's characteristics, family, and culture.
- ❑ 5. Explains the reasons behind his culture-based activities.
- ❑ 6. Explains cultural differences of classmates and people in the community.

Goal 2 - GEOGRAPHY

Students will understand the interrelationships of people, places, and the environment.

Indicator 1: Analyze information from geographic representation, tools, and technology to define location, place, and region.

Benchmarks:

- a. The student will be able to use representational means to identify geographical areas.

Functional Standards

- ☐ 1. Recognizes/identifies areas within the school area.
- ☐ 2. Recognizes/identifies areas within the community.
- ☐ 3. Recognizes/identifies areas within the region/state.
- ☐ 4. Recognizes/identifies geographical areas in the community through pictures, objects and simple maps.
- ☐ 5. Recognizes/identifies geographical areas in the nation through pictures, objects, simple maps, and globes.
- ☐ 6. Recognizes/identifies geographical areas in the world through pictures, objects, simple maps, and globes.
- ☐ 7. Recognizes resources available to access geographical information.
- ☐ 8. Uses resources available and accesses geographical information.

Indicator 2: Analyze the relationships among the natural environments, the movement of peoples, and the development of societies.

Benchmarks:

- a. * Analyze the impact of the natural environment on settlement patterns in South Dakota.
- b. * Describe ways humans are impacted by the natural environment.
- c. * Analyze how past trends in human migration nationwide have impacted communities.

Functional Standards

- ☐ 1. Identifies physical features of the community, state, country, and world.
- ☐ 2. Identifies ways people use these physical features for recreation and livelihood (e.g. community, state, country, and world).
- ☐ 3. Identifies instances of human migration.
- ☐ 4. Identifies why humans migrate.
- ☐ 5. Identifies the effects of human migration.

Indicator 3: Analyze the impact of Earth's natural processes, patterns, and cycles on various regions of the United States and the world.

Benchmarks:

- a. * Analyze how change in the environment can impact people nation-wide.

Functional Standards

- ☐ 1. Describes various earth / sun relationships (e.g. day and night, time zones, seasons, and climates).
- ☐ 2. Describes how climate influences people's lives.

Goal 3 - CIVICS

Students will understand the historical development and contemporary role of governmental power and authority.

Indicator 1: Analyze the various forms and purposes of government in relationship to the needs of individuals and societies.

Benchmarks:

- a. The student will be able to function successfully in the variety of organizations found in society.

Functional Standards

- ☐ 1. States/recognizes/identifies the rules of the classroom/school/organization.
- ☐ 2. Follows the rules of the classroom, school or organization.
- ☐ 3. States/recognizes/identifies/explains the consequences associated with school/class/organization rules.
- ☐ 4. States/identifies how rules of the school/classroom/organization can be changed.
- ☐ 5. Recognizes/identifies local, state, national, and international leaders.
- ☐ 6. Recognizes/identifies ways in which leaders are selected.
- ☐ 7. Recognizes/identifies tasks associated with leadership.
- ☐ 8. Recognizes/identifies traits which are characteristics of a leader.

Indicator 2: Evaluate the impact of historical events, ideals, and documents on the formation of the United States government.

Benchmarks:

- a. The student will be able to recognize / identify basic principles associated with the American government system.

Functional Standards

- ❑ 1. * Recognizes patriotic symbols and activities (e.g. national flag; “The Star Spangled Banner”; and “Pledge of Allegiance”).
- ❑ 2. * Recognizes political roles of leaders in the larger community (e.g. the mayor, the governor, the legislators, the congressmen, senators and the president).

Indicator 3: Analyze the constitutional rights and responsibilities of United States citizens.

Benchmarks:

- a. Explore the strengths and weaknesses of different forms of government.
- b. Explore the distribution of government power and authority.
- c. Explore purposes of political activity.

Functional Standards

- ☐ 1. Demonstrates appropriate turn taking.
- ☐ 2. Is aware of his/her personal space and respects that space of others.
- ☐ 3. Takes an active role in personal and classroom decision making.
- ☐ 4. Participates in his/her IEP on a regular basis starting at age 14 and earlier if desired.
- ☐ 5. Knows about guardianship and its implications.
- ☐ 6. Knows how to register to vote.
- ☐ 7. Will know how to register for the draft and do so at the appropriate age.
- ☐ 8. Is familiar with the rights/responsibilities associated with marriage.
- ☐ 9. * Recognizes the important actions required in demonstrating citizenship; respecting the roles of members and leaders in a group; sharing responsibilities in a group; identifying ways to help others; respecting the individual right to express an opinion; and acknowledging that people think and act differently.
- ☐ 10.* Compares rules in different groups for different situations (e.g. family, school, community).
- ☐ 11.* Defines conservation in terms of ways citizens protect global resources with emphasis on reducing, reusing, and recycling.
- ☐ 12.* Explains why communities have rules or laws and how they protect the rights and freedoms of individuals.
- ☐ 13.* Explains the process of making rules and laws, enforcing laws, voting, and becoming a citizen.
- ☐ 14.* Identifies the South Dakota state flag, song , flower, bird and nickname.

- ❑ 15.* Identifies examples from South Dakota history of conflicts over rights, how the conflicts were resolved, the important people who helped resolve them, and conflicts that remain unsolved.
- ❑ 16.* Describes how citizens of a democracy give the government authority to make decisions on their behalf.

Goal 4 - ECONOMICS

Students will understand the impact of economics on the development of societies and on current and emerging national and international situations.

Indicator 1: Analyze the economic impact of the availability and utilization of various resources on societies.

Benchmarks:

- a. The student will be able to identify / recognize the jobs within the community and the goods and services associated with them.
- b. The student will be aware of the resources available to help access goods and services in the community.

Functional Standards

- ☐ 1. Explains what a job is.
- ☐ 2. Identifies jobs that people do.
- ☐ 3. Describes what tasks and equipment are required for various jobs in the community.
- ☐ 4. Distinguishes between goods and services.
- ☐ 5. Matches the goods and services found in the community with the people who provide those goods and services.
- ☐ 6. Identifies where various goods and services can be obtained in the community.
- ☐ 7. Accesses and uses goods and services provided in the community.
- ☐ 8. Recognizes technology and how it affects one's own and other people's lives.
- ☐ 9. Is able to use technology to access one's environment.

- ❑ 10. Understands what resources government helps to provide and how to access them.

Indicator 2: Analyze the role of various economic systems in the social, political, and economic development of societies.

Benchmarks:

- a. The student will be able to recognize / identify and demonstrate methods of exchange in society.
- b. The student will be able to recognize / identify and demonstrate personal money management.

Functional Standards

- ❑ 1. Demonstrates that he/she can use money or its equivalent to obtain goods and services (K-2).
- ❑ 2. Identifies various means of earning money or its equivalent.
- ❑ 3. Identifies various means of saving money or its equivalent.
- ❑ 4. Identifies goals for which saved resources will be used.
- ❑ 5. Identifies how others earn money.
- ❑ 6. Recognizes/identifies the impact of taxes.
- ❑ 7. Recognizes that one has to pay taxes when purchasing a good or service.
- ❑ 8. Recognizes that take home pay is less than gross pay.
- ❑ 9. Sets up a personal budget.

Indicator 3: Analyze the complex relationships among economic, social, and political decisions.

Not appropriate for functional standards.

Functional Standards Glossary

The Glossary is prepared for use with the South Dakota Functional Standards. These terms have been selected for definition because they are subject to a wide range of interpretation and/or require clarification.

Access: Make use of.

Analyze: To separate into parts or basic principles so as to determine the nature of the whole; examine methodically; to resolve.

Annual goal: Sets the general direction for instruction and assists in determining specific courses, experiences, and skills a student will need to reach his or her vision. A goal is a description of what a student can reasonably be expected to accomplish within a 12 month period with the provision of special education services. The goal must be meaningful, able to be monitored and useful in making decisions regarding a student's education.

Anticipate: To feel or realize beforehand. To look forward to with pleasure.

Apply: To put to use.

Associate: To connect or join together; combine.

Associative: $2 \times (3 \times 4) = (2 \times 3) \times 4$

Attributes: Characteristics

Commutative: $2 \times 3 = 3 \times 2$

Comparative: Similar, approximate, matching, near, parallel, relative, analogous, corresponding.

Composition: The general makeup.

Computational: Numerical.

Concrete: Actual, specific, particular, real, accurate, definite, solid, true.

Conjectures: Statements that are shown to be true or false. A conjecture is usually developed by examining several specific situations.

Convey: Communicate, divulge, impart, relate, transmit, pass on, reveal, disclose.

Deductive: Logical, reasonable, consistent, understandable.

Demonstrates: To show clearly and deliberately. To present by experiments, examples, or practical application.

Discrete: Not continuous.

Distinguish: Name, characterize, identify, mark, label, tag.

Evaluate: Judge the worth, judge, appraise, estimate, rank, decide, measure value, assess.

Explore: Investigate, delve, research, hunt, dig, seek, go, inquire, look.

Expository: The systematic explanation of a subject. Conveying information about or explaining a subject.

Function(s): A relation in which the first value has exactly one second value.

Graphophonic cues: Phonetic cues which support the understanding that letters represent sounds in the English alphabet language; symbols stand for speech rather than pictures or ideas and have some relationship to pronunciation; the relationship between written language and the sound of spoken language.

Identify: Analyze, classify, distinguish, describe, know, recognize, name.

Inductive: Logical.

Instigate: Urge, provoke, generate, prompt, induce, initiate, start.

Inverse: Opposite.

Magnitude: Size, extent, dimension, enormity, measure, range.

Observe: To be or become aware of, especially through careful and directed attention. Notice, look at, discover, recognize, see, watch, mark, note, inspect, examine, view, follow, acknowledge.

Open sentences: A statement that contains at least one unknown. It becomes true or false when a quantity is substituted for the unknown. For example, $3 + x = 5$.

Pattern(s): An arrangement of objects or symbols in which relationships can be established.

Pertinent: Appropriate, applicable, fitting, important, pertaining to.

Probability: Likelihood, expectation, chance, possibility, feasibility.

Reciprocates: Returns, exchanges.

Recognize: Identify, know, distinguish, be familiar with, make out, tell, detect, perceive, admit, acknowledge, agree, note, observe.

Relative: Comparative, proportionate, comparable, applicable, pertinent, connected, related, affiliated, pertaining to, interconnected, interrelated.

Responds: To make a reply. To answer. To react positively or favorably.

Semantic: Of or relating to meaning, especially meaning in language.

Standards: Represent the classroom learning objectives or activities which should be provided at each grade level to help students reach the expectations articulated in the benchmarks, indicators and goals.

Syntactic: Relating to the rules of syntax. **Syntax:** The pattern of formation of sentences or phrases in a language.

Synthesize: Combine parts into a whole, merge, fuse, blend, harmonize, arrange, integrate.

Tactile: Tangible, touchable, palpable, physical, tactual, real.

Transactional: Communication involving two or more people that affects all those involved; personal interaction.

Variable: A quantity that is capable of assuming a set of values, a symbol that represents the quantity. In the equation $x + y = 12$, x and y are the variables.

Whole numbers: One of the numbers 1, 2, 3, also called counting numbers or rational numbers.

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